

PATENT APPLICATION

Attorney Docket No. C01019US (08395/7C5)

TITLE OF THE INVENTION

"GAS FIRED OUTDOOR COOKING APPARATUS"

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CROSS-REFERENCE TO RELATED APPLICATIONS

This is a continuation-in-part of U.S. Serial No. 09/703,993, filed November 1, 2000 which is a continuation in part of U.S. Serial No. 09/567,676, filed May 9, 2000 (now abandoned) which is a continuation in part of U.S. patent application Serial No. 10 09/426,210, filed October 25, 1999 (now U.S. Patent 6,058,830), which is a continuation in part of U.S. patent application Serial No. 09/149,842, filed September 8, 1998 (now U.S. Patent 5,970,852), which is a continuation of U.S. Serial Number 08/813,463 filed March 10, 1997 (now U.S. Patent 5,813,321).

15 STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable

REFERENCE TO A "MICROFICHE APPENDIX"

Not applicable

BACKGROUND OF THE INVENTION

20 1. Field of the Invention

The present invention relates to outdoor cooking devices and cooking accessories and more particularly to a natural gas fired outdoor cooker that is supplied with a source of fuel such as butane or propane from a canister and that includes a stand, pot, and pot liner, the improvement including a special configuration of the burner and a connected 25 table that enables a user to quickly support a pot liner or basket upon the table after it is removed from the pot of boiling liquid.

2. General Background of the Invention

A number of outdoor cookers have been sold commercially for a number of years and are admitted as "prior art" type burners. These "prior art" burners have traditionally 30 included a metallic frame that supports a burner nozzle, such as a cast iron burner nozzle. Such burner nozzles are commercially available and are used to fire most natural gas fired hot water heaters.

Examples of these prior art type outdoor cooking devices can be seen in the January 1, 1996 brochure of Metal Fusion, Inc., of Jefferson, Louisiana. Patents have issued naming Norman Bourgeois as inventor that relate to burners and related cooking apparatus. Examples include U.S. Patent 5,065,735 for a "Convertible Burner Apparatus" that features different primary burner frames and legs that can elevate the burner frames. Other Bourgeois patents that relate to cooking devices include the aforementioned patent numbers 5,813,321; 5,970,852; and 6,058,830.

The burner nozzle can be a cast iron hot water heater type burner nozzle or a jet burner arrangement that uses a single outlet centered in a cylindrically-shaped, vertically oriented metallic tube. The most common version of the prior art "jet burner" arrangement is seen in Metal Fusion's catalog as Model No. 90PK. Another version of this type of cooker includes two spaced apart circular rings connected with struts and having a cylindrically-shaped wind guard or shroud. This type of prior art burner can be seen for example as Metal Fusion Model Nos. 82PK, 83PK, 85PK, 86PK, and 86PKJ.

For cooking some food items such as poultry items, it is sometimes desirable to fry the object in a basket that can be lifted from the pot. An example of this type of "prior art" arrangement is seen in the 1996 Metal Fusion catalog as Model No. 32TPK. For a combination cooking arrangement that includes a burner, pot and liner, the user typically places the poultry item in the basket and lowers it into boiling oil using a bail. In the prior art, bails have often been detachable from the basket so that the user can lower the basket into the pot and the contained boiling oil and then remove the handle or bail therefrom. This allows the user to eliminate the transfer of heat from the basket to the handle during the elongated cooking process.

A number of patents have issued that relate to cooking devices and utensils for use in combination with cooking vessels. The Walker Patent 4,735,135 provides a utensil assembly and kit including same for cooking vessels used in preparing and supporting combustibles above the bottom of the cooking vessel and away from its inner walls. The utensil kit comprises a base supported above the bottom of the cooking vessel, a plurality of support attachments separately detachable and interchangeably mountable on the base for supporting selected combustible products, and releasable latch mechanism having two parts, one part disposed on the base, and the other part is disposed on each of the support

attachments for engaging the base. One of the utensils is a poultry support attachment that fits inside the cavity of a chicken or other poultry enabling it to be positioned upright.

5 The Rappaport patent 3,053,169, discloses a poultry supporting device that sits upon a base in the form of a pan.

A rotisserie cooking arrangement is disclosed in the French Patent 2685862.

A roasting support for fowl is disclosed in U.S. Patent No. 5,106,642. The apparatus includes a longitudinally extending rod that extends through the center of the turkey having an eyelet at its upper end.

10 A roaster for poultry and meat is disclosed in U.S. Patent 5,301,602. The apparatus includes a vertical roasting apparatus wherein a predetermined amount of liquid for generating the moisture required to produce a high quality and flavorful roasting of the meat is included in a reservoir formed within the support structure itself and disposed internally of the poultry or meat being roasted.

15 A vertical spit for displaying roasting or warming is disclosed in U.S. Patent 5,442,999.

A combination outdoor cooker and smoker is disclosed in U.S. Patent 5,531,154. The apparatus includes a cooker having a gas burner coupled to an external gas source through a control valve by a gas supply conduit.

20 An Austrian patent 217592 discloses a cooking device that has a central member upon which a turkey or chicken is supported during the cooking operation.

British patent 2205734A discloses a device for use in preparing and cooking kebabs that includes walls which are interconnected to define a tube member and into which a first end wall is slidably received to further reinforce the shape formed by the sidewalls and whose end position is determined by the engagement of lips projecting inwardly from the sidewalls. The sidewalls are apertured longitudinally for receiving a knife to cut food within the tube member.

Issued patents to Barbour (U.S. patents 5,758,569 and 5,896,810) disclose a cooking apparatus directed to the frying of poultry items such as turkeys.

30 An example of a "prior art" smoker arrangement is seen in the 1999 Metal Fusion catalog as Model No. KK495. This arrangement included a propane burner with a flat

surface and did not have the improved nested arrangement of the present invention.

One of the problems with outdoor cookers is the handling of very large pots (eg. 100 quarts) that contain a large number of food items or a bulky item such as a turkey. It is desirable that such an outdoor cooking apparatus have good stability to support the very heavy and often tall pot during cooking, and during placement of or removal of the pot, liner or both from the burner.

BRIEF SUMMARY OF THE INVENTION

The present invention includes a burner frame having a base for engaging an underlying support surface, the burner having a nozzle for generating a high intensity flame for use in cooking, and a supply hose for supplying propane to the burner. The burner frame has a support surface for cradling a pot.

A pot is provided that includes a flat bottom portion and cylindrically-shaped continuous side walls, the pot having a generally cylindrically-shaped interior for receiving a basket. The basket or liner removably fits the pot interior. The basket can include a base that registers against the bottom of the pot and a vertically extending portion adjacent to the pot wall that connects to a bail.

The burner frame includes a ring that is supported above the bottom of the pot on the exterior of the pot for engaging the sidewall of the pot should the pot be tipped.

The upper ring is supported by a plurality of generally "L" shaped struts that extend from the upper ring downwardly along a generally vertical path and then horizontally to cradle the bottom of the pot.

A table removably connects to the burner at the frame. The table extends well above the burner, but below the top of the pot during use. This improved overall geometry is stable, easy to use, and safer than present outdoor cooking devices.

BRIEF DESCRIPTION OF THE SEVERAL VIEW OF THE DRAWINGS

For a further understanding of the nature, objects, and advantages of the present invention, reference should be had to the following detailed description, read in conjunction with the following drawings, wherein like reference numerals denote like elements and wherein:

Figure 1 is a perspective view of the preferred embodiment of the apparatus of the present invention;

Figure 2 is a partial perspective view of the preferred embodiment of the apparatus of the present invention illustrating the basket, steam plate, and bail;

Figure 3 is a partial perspective of the preferred embodiment of the apparatus of the present invention illustrating the basket portion thereof;

5 Figure 4 is a fragmentary perspective view of the preferred embodiment of the apparatus of the present invention illustrating the burner portion thereof;

Figure 5 is a fragmentary sectional elevation view of the burner of Figure 4;

Figure 6 is a fragmentary sectional elevation view of the burner of Figure 4;

10 Figure 7 is a sectional elevation view of the preferred embodiment of the apparatus of the present invention illustrating the burner, pot, and basket portions thereof during steaming;

Figure 8 is a sectional elevation view of the preferred embodiment of the apparatus of the present invention illustrating the burner, pot, and basket portions thereof during boiling;

15 Figure 9 is a perspective view of the preferred embodiment of the apparatus of the present invention showing an alternate burner construction;

Figure 10 is a top view of the burner of Figure 9;

Figure 11 is a sectional view taken along lines 11-11 of Figure 10;

20 Figure 12 is a perspective view of an alternate embodiment of the apparatus of the present invention;

Figure 13 is a sectional view taken along lines 13-13 of Figure 12;

Figure 14 is a sectional view taken along lines 14-14 of Figure 12;

Figure 15 is an exploded perspective view of a third embodiment of the apparatus of the present invention;

25 Figure 16 is a perspective view of the third embodiment of the apparatus of the present invention;

Figure 17 is a partial perspective view of the third embodiment of the apparatus of the present invention;

30 Figure 18 is another partial perspective view of the preferred embodiment of the apparatus of the present invention;

Figure 19 is a partial sectional elevation view of the third embodiment of the

apparatus of the present invention; and

Figure 20 is a partial perspective view of the third embodiment of the apparatus of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

5 The present invention provides an outdoor cooking apparatus designated generally by the numeral 10 in Figure 1. The apparatus 10 includes a burner 11, pot 12, supply valve 13, a commercially available flexible hose for supplying propane or like fuel for firing the burner 11, and a basket 14 (see Figures 2-3) that can be lowered into the interior 15 of pot 12. In Figures 4-8, burner 11 includes a lower ring 16 and an upper ring 17. 10 Burner 11 has a nozzle or jet surrounded by cylindrically-shaped wind guard 22.

 The rings 16, 17 are connected with a plurality of struts 18. Each strut 18 includes radially extending, inclined lower strut section 19, upper strut section 20, and vertical center strut section 21. Each of the lower strut sections 19 is linear in shape, and inclined to form a connection between the lower or base ring 16 and the bottom of central strut 15 section 21 (see Figure 6).

 Upper strut sections 20 are generally "ell" shaped having a lower end portion 23 that forms a connection with the upper end of central strut section 21 and an upper end 24 that forms a connection with upper ring 17.

 The "ell" shaped upper strut sections 20 include upper linear section 24, lower 20 linear section 23, and bend sections 25, 26. This configuration provides both a base for holding the bottom surface 27 of pot 12 and a vertically extending portion that envelopes the lower end of pot sidewall 28.

 In a preferred embodiment, the ring 17 can be positioned, for example, about 2-8 25 inches above the bottom surface 27 of pot 12. Further, the upper ring 17 has an inside diameter indicated as 29 in Figure 7 that closely approaches the outside diameter 30 of pot 12. A clearance of about $\frac{1}{2}$ - $1\frac{1}{2}$ inches is provided in between the inside of ring 17 and the outside of pot wall 28 during use.

 In Figures 1-3, basket 14 includes a wire basket frame base 31 that can be, for example, in the form of a plurality of connected (e.g., welded) wire members arranged 30 in a cross (see Figure 3).

 In Figures 2-3, basket 14 includes a base comprised of a pair of linear intersecting

members 32, 33, a pair of vertical members 34, 35 and a bail 36. The base can have feet for spacing it from the bottom 27 surface of pot 12. Each vertical member 34, 35 has a hook 37, 38 respectively for connecting to the lower ends 39, 40 of bail 36, as shown in Figure 2. Bail 36 can be trapezoidal in shape, having handle portion 51, sides 52, 53 and cross beam 54. The enlarged handle 51 enables a user to grip with both hands.

Steamer plate 41 can optionally be placed upon basket 14 if food items are to be steamed. Plate 41 has a generally circular shape, providing peripheral edge 42 and central opening 43. Plate 41 is preferably perforated providing an array of openings therethrough that enable steam to access all surfaces of a food item that is placed on the upper surface 45 of plate 41. Drippings from food items can flow through the openings as well.

Support 46 extends upwardly from base 31 of basket 14. Support 46 has a dual function of holding steamer plate 41 as shown in Figures 2 and 7 and of supporting a food item such as chicken, turkey or other selected item as shown in Figure 8.

A pair of laterally extending posts 47, 48 support the peripheral edge 42 of steamer plate 41 when the steamer plate is assembled to the basket 14. Central opening 43 of steamer plate 41 rests upon support 46 when the steamer plate is put in an operational position. The steamer plate is thus supported at its periphery with posts 47, 48 and at its center with support 46. Steamer plate 41 has peripheral slots at 49, 50 that fit vertical members 34, 35 respectively.

The apparatus of the present invention thus provides a dual function cooking apparatus that enables a user to either steam food products such as crabs, lobsters, clams and the like, or boil food items such as fish, shellfish, or poultry items.

Figures 9-11 show an alternate embodiment of the apparatus of the present invention designated generally by the numeral 55 in Figures 12 and 17-18.

Outdoor cooking apparatus 55 includes a burner for supporting pot 12. Burner 55 (Figures 9-11) includes upper ring 56 and a plurality of horizontal struts 57-59. Vertical struts 60-62 are connected integrally to horizontal struts 57-59 respectively. As shown in Figures 9-11, a plurality of legs 63, 67, 71 are attached to horizontal struts 57, 58, 59 respectively. Each leg 63, 67, 71 is formed of a pair of straight sections and a bend section. The leg 63 includes straight sections 64 and 66 connected by bend 65. The leg

67 includes straight sections 68, 70 connected by bend 69. The leg 71 is similarly configured to legs 63 and 67.

A cylindrical flue 72 is placed at the vertical central axis 91 of burner 55 as shown in Figures 10 and 11. The cylindrical flue 72 attaches to each of the legs 63, 67, 71 by welding for example. Each leg 63, 67, 71 attaches to a horizontal strut 57, 58, 62, preferably by welding. Each of the vertical struts 60, 61, 62 attaches to upper end 56 by welding, for example. A fuel supply line 73 is used to supply combustible gas such as propane or butane to nozzle 75. The nozzle 75 is preferably attached to the vertical bore 74 of cylindrical flue 72 by welding or like means known in the art.

Circular plate 76 is attached to the inner end portions of horizontal struts 57, 58, 59 as shown in Figures 9-11. This attachment of plate 76 to horizontal struts 57, 58, 59 can be by welding at welds 77 for example.

In Figure 11, the apparatus 55 of the present invention is shown in operating position wherein pot 12 occupies a position on top of the horizontal struts 57, 58, 59. A flame 78 extends upwardly from nozzle 75. The nozzle 75 can be ignited when propane, butane or like gas is transmitted to the nozzle 75 via pipe line 73 using a match, or like starter. Flame 78 strikes the bottom of plate 76 diverting flame 78 laterally to provide even distribution of heat to the bottom of pot 12. This distribution of the flame 78 outwardly and laterally away from plate 76 is indicated schematically by arrows 79 in Figure 11.

Figures 12-14 show an alternate embodiment of the apparatus of the present invention designated generally by the numeral 81 in Figures 12-14. Burner apparatus 81 includes a frame 82 comprised of a plurality of beams. Frame 82 can be of welded steel construction, for example. Frame 82 thus includes beams 83, 84 that are parallel to each other and central beam 85 that is generally perpendicular to the beams 83, 84.

At the extreme end portions of frame 82, beams 86, 87 extend between respective end portions of beams 83, 84 as shown in Figure 12. Each of these end beams 86, 87 is connected to a leg 88 or 89. As shown in Figure 13, attachments 93 (for example, welded attachments) form a connection between each leg 88, 89 and frame 82 at beams 86, 87 respectively.

In Figures 13 and 14, each leg 88, 89 is comprised of a horizontal member 90 and

a pair of inclined members 91, 92.

In the embodiment of Figures 12-14, a pair of burners 94 are provided, each comprising a cylindrically shaped shroud 95, a contained burner element 96 positioned within the shroud 95 as shown in Figures 13 and 14 and grate members 98 that support shroud 95 and its contained burner element 96. A ring 97 forms an interface between frame 82 and the plurality of grate members 98. Rings 97 can be welded to the beams at the top of frame 82. In Figure 12, ring 97 on the left hand side of Figure 12 is welded to beams 83, 84, 85 and 86. The ring 95 on the right hand side of Figure 12 is welded to beams 83, 84, 85, and 87. Grate members 98 are welded to ring 97 at attachments 102. Grate members 98 are also connected at attachments 103 to shroud 95. The attachments 103 can be welded connections, for example.

Figures 15-20 show a third embodiment of the apparatus of the present invention, designated generally by the numeral 104 in Figures 15 and 16. Cooking apparatus 104 is in the form of a combination smoker/burner. This apparatus enables a smoker to be used with the burner that is shown and described with respect to the first and second embodiments of Figures 1-14. Smoker apparatus 104 provides a lower section 105, middle section 106, and upper section 107. The upper section 107 basically functions as a cover. The middle section 106 is a cooking chamber. The lower section 105 can be used to contain a bowl that has a liquid that can include seasoning. Alternatively, the sections 105, 106, 107 can be assembled as a free standing smoker separate from burner 11 wherein the bowl 119 can be filled with charcoal.

Lower section 105 is specially configured to mate with and be supported by burner 11. The lower section 105 provides a larger cylindrical side wall 109 and a smaller cylindrical side wall 113. A tapered annular wall 114 joins the larger cylindrical side wall 109 and the smaller cylindrical side wall 113 as shown in Figure 19. A bottom panel 112 connects to the lower end of the smaller cylindrical side wall 113. When not in use upon burner 11, the smoker sections 105, 106, 107 can be supported by any means known in the art such as for example, a plurality of legs 115 or a separate base that is not a burner and that fits the contours of bottom 112, small side wall 113, tapered annular side wall 114, and/or larger cylindrical side wall 109.

An access door 120 can be provided in lower section 105 as can be air vent

openings 116. The lower section 105 can provide a flat, annular flange 117 or other suitable mating surface for supporting middle section 106. Similarly, upper section 107 is configured to fit upon the upper edge 126 of middle section 106.

5 A cooking grate 118 can be supported upon one or more supports 121 provided on the interior of lower section 105. Similarly, a plurality of supports 121 can also be provided at the upper end portion of middle section 106 for supporting a cooking grate. Handles 122 can be provided on any of the sections 105, 106, 107 as desired for manipulating the various sections. The cover can be provided with usual thermometer and burner 11 can provide a jet or nozzle 125 and/or a flame diffuser 124.



10 It should be understood that the general concept of a smoker that includes multiple sections such as 105, 106, 107 is old in the art, having been sold commercially a number of years such by Brinkman and others.

PARTS LIST

15 The following is a list of suitable parts and materials for the various elements of the preferred embodiment of the present invention.

	Part Number	Description
	10	cooking apparatus
	11	burner
	12	pot
20	13	supply valve
	14	basket
	15	interior
	16	lower ring
	17	upper ring
25	18	strut
	19	lower strut section
	20	upper strut section

		21	center strut section
		22	wind guard
		23	lower linear section
		24	upper linear section
5		25	bend
		26	bend
		27	bottom surface
		28	pot sidewall
		29	inside diameter
10		30	outside diameter
		31	base
		32	intersecting member
		33	intersecting member
		34	vertical member
15		35	vertical member
		36	bail
		37	hook
		38	hook
		39	end
20		40	end
		41	steamer plate
		42	peripheral edge
		43	central opening

		44	openings
		45	upper surface
		46	support
		47	horizontal post
5		48	horizontal post
		49	slot
		50	slot
		51	handle portion
		52	side
10		53	side
		54	transverse beam
		55	outdoor cooking apparatus
		56	upper ring
		57	horizontal strut
15		58	horizontal strut
		59	horizontal strut
		60	vertical strut
		61	vertical strut
		62	vertical strut
20		63	leg
		64	straight section
		65	bend
		66	straight section

	67	leg
	68	straight section
	69	bend
	70	straight section
5	71	leg
	72	cylindrical flue
	73	fuel supply line
	74	vertical bore
	75	nozzle
10	76	circular plate
	77	weld
	78	flame
	79	arrows
	80	central axis
15	81	burner apparatus
	82	frame
	83	beam
	84	beam
	85	beam
20	86	beam
	87	beam
	88	leg
	89	leg

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 15
 20

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90	horizontal member
91	inclined member
92	inclined member
93	attachment
94	burner
95	shroud
96	burner element
97	ring
98	grate member
99	horizontal section
100	vertical section
101	bend
102	attachment
103	attachment
104	smoker apparatus
105	lower section
106	middle section
107	upper section
109	cylindrical sidewall
110	open top
112	bottom panel
113	cylindrical sidewall
114	tapered annular wall

5	115	leg
	116	air vent opening
	117	annular flange
	118	cooking grate
	119	bowl
10	120	door
	121	support
	122	handle
	123	thermometer
	124	flame diffuser
	125	nozzle
	126	upper edge

The foregoing embodiments are presented by way of example only; the scope of the present invention is to be limited only by the following claims: